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ABSTRACT

The hypothesis to be tested postulated that cooperating teachers and university supervisors, as observers, affect the student teacher's verbal behavior differently. Data were collected on fifteen elementary education student teachers by the use of a tape recorder during the second, fourth, and sixth weeks of the school year and under the following conditions: no observer in the classroom: cooperating teacher as observer: and university supervisor as observer. A split-plot factorial for the analysis of variance was used to test the hypotheses. Conclusions indicate that cooperating teachers and university supervisors do not affect the student teacher's verbal behavior differently. It was suggested that this study be replicated with larger samples of student teachers. Other variables which should be examined are the observer's nonverbal behavior and the subject matter being taught. (Authors/JN)

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DIFFERENTIAL OBSERVER EFFECTS ON STUDENT TEACHERS

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Differential Observer Effects on Student Teachers

Abstract

This study hypothesized that cooperating teachers and university supervisors, as observers, affect the student teacher's verbal behavior differently. Data were collected on fifteen elementary education student teachers by the use of a tape recorder during the second, fourth and sixth weeks of the school year and under the following conditions: no observer present in the classroom, cooperating teacher presernt as observer, and university supervisor present as observer. A split-plot factorial for the analysis of variance was used to test the hypotheses.

It was concluded that cooperating teachers and university supervisors do not affect the student teacher's verbal behavior differently. It was suggested that this study be replicated with larger samples of student teachers, cooperating teachers, and university supervisors. In addition, other variables should be examined, such as the observer's nonverbal behavior and the subject matter being taught.

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Most researchers agree that the presence of an observer affects a teacher's classroom behavior and thus poses a threat to the external validity of data collected during such circumstances (Gage, 1972; Heyns and Zander, 1953; Rosenshine and Furst, 1973). Mitzel and Rabinowitz (1953) concluded that a teacher's verbal behavior was markedly influenced by the presence of an observer when data from the first four weeks of the study were compared to the last four weeks. However, the problem is even more complex in student teaching since the student teacher is observed by not only a university supervisor but also a cooperating teacher. Since both observers assess the student's performance, we assume that it will not differ significantly in either situation. As a result of this assumption, the researchers designed a study whose purpose was to determine if there is a difference in observer effect between the cooperating teacher and university supervisor on the verbal behavior of the student teacher.

A study by Samph (1968) revealed that the presence of an observer did influence the behavior of those being observed but that prior knowledge of an observation had no significant effect on a teacher. Other studies (DiMartino, 1974; Hursh, 1974; Ragosta, 1974; Simmons, 1950) also have indicated that an observer influences the behavior of a teacher. However, despite these findings, conclusions about teacher behavior arrived at by obtrusive observers are frequently generalized to classrooms not being observed (Medley and Mitzel, 1963).

As stated previously, the situation grows more complex in student teaching. Although the cooperating teacher is usually thought to have the greater influence on the student teacher (McCauley, 1960; Price, 1961; Schueler, Gold and Mitzel, 1962; Zevin, 1974), Dunham (1958) concluded that student teacher attitudes approximated those of the university supervisor while the student teacher is on campus but shift toward those of the cooperating teacher while working in the classroom. Additional research suggests that the university supervisor has little affect on student teacher behavior (Morris, 1974; Sundgren and Schmidt, 1956; Schueler, Gold and Mitzel, 1962); however Bennie (1964) found a consensus among 171 beginning teachers that university supervisors were of slightly more assistance than cooperating teachers.

Thus, in contrast to research indicating the observer's effect on teacher behavior and the differential effect of cooperating teachers and university supervisors on student teacher attitude, this study examined the possible differential observer effect of cooperating teachers and university supervisors on student teachers, hypothesizing that the student teacher's verbal behavior would differ under the following observer conditions: (1) unobserved situation[1] vs cooperating teacher present as observer, (2) unobserved situation vs university supervisor present as observer, and (3) cooperating teacher

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[1]The unobserved situation was defined as the situation where no person was observing the student teacher in the classroom. However, the data were overtly collected by the use of a tape recorder under this and all other conditions.

present as observer vs university supervisor present as observer.

RESEARCH CONTEXT

The setting for the study was somewhat atypical and, thus, an important aspect of the study. The Syracuse University teaching centers, in which this research was conducted, emphasized by design the joint responsibility of the university supervisor and cooperating teacher for the planning, implementation and evaluation of the student teacher's teaching experience. In addition, the university supervisors, who are jointly appointed by the university and school districts and are based in the schools, had more formal and informal contact with cooperating teachers and student teachers than is typical in many student teaching situations. The conscious effort to increase the supervisory role of the cooperating teacher makes them comparable to the university supervisor in authority and responsibility, although it is not known if they are perceived thusly by the student teacher.

PROCEDURE

The subjects were fifteen student teachers who were completing their elementary education student teaching during the first half of the semester (seven weeks). The observers were fifteen cooperating teachers and five university supervisors. Unfortunately, the placement procedures of the university precluded the random selection and assignment of student teachers.

Audio-tapes were made of classroom discussion lessons taught by the student teachers during the second, fourth, and

sixth weeks of the school year, respectively, under three observer conditions: no live observer present in classroom, cooperating teacher present as observer, and university supervisor present as observer. Hough's Observational System for Instructional Analysis (Hough 1967ab) was used to categorize and analyze the data. Both the cooperating teacher and student teacher were told that they were part of a research project to study pupil behavior during discussion lessons.

DESIGN AND ANALYSIS

The experimental design was a variation of a split-plot, repeated measures design for multiple treatment groups and varying orders of observations (Kirk, 1968). A split-plot factorial for the analysis of variance was used to arrive at the F Ratios for the performance scores for the hypotheses. This analysis examines the variance among the observer conditions as a whole, rather than examining the hypotheses separately. If any interactions were significant, Tukey's HSD test was utilized to analyze the simple main effects and to isolate the significantly different observer conditions.

RESULTS

Despite previous research indicating the effect of an observer on teacher behavior, out of twelve subcategories (Table 1), only two -- praise and reward ($p < .01$), and criticism and rejection ($p < .04$) -- were found to be significantly different across the three observer conditions, and even here, the Tukey test failed to identify any pair of observer conditions that differed significantly. Therefore, it appears that

not only did the observer effect of the cooperating teacher and university supervisor not differ but also it did not seem to influence the student teacher's verbal behavior at all. Thus, the three research hypotheses were rejected.

Insert Table 1

DISCUSSION

These findings seem to suggest that the presence of an observer, whether the cooperating teacher or university supervisor, did not affect the student teacher's verbal behavior. However, the setting for this study, teaching centers, may have produced these unanticipated results. Since the cooperating teacher had close contact with the student teacher for nearly the total student teaching experience, it might be that his presence as an observer posed little "threat" to the student teacher. As a result, the increased visibility and contact may have encouraged the student teacher to feel more at ease in the university supervisor's presence. Furthermore, the conscious effort to increase the supervisory role of the cooperating teacher may have caused the student teacher to view the cooperating teacher and university supervisor as having comparable authority and responsibility, and thus, as posing comparable degrees of "influence" in their roles as observer. Consequently, teaching centers, similar to this setting, may produce less student teacher anxiety and result in more valid data collected during an observation.

There is the possibility, also, that this research examined the wrong variables -- the role of the observer -- instead of precise personal and professional characteristics and behaviors of the observers. A trait-treatment-interaction study could examine the possibility that these personal characteristics of the cooperating teacher and university supervisor might affect each student teacher differently and, thus, be responsible for any influence exerted upon a student teacher's behavior.

Fluctuations of scores for some categories of verbal behavior seem to suggest the beginnings of a trend, but instead of drawing conclusions about changes in student teacher verbal behavior, one can only wish that there were twice as many observations spread over a longer time in order to verify these hints of trends (Table 2). For example, what appears to be a pattern of declining indirect verbal behavior over the three observations under two of the observer conditions -- 29.2%, 24.5%, and 23.7% with no observer and 30.3%, 27.8% and 27.1% with the cooperating teacher present -- is not supported by data collected when the university supervisor was present -- 25.2%, 24.8% and 29.8%. Each percentage point for a subcategory represents about 27 tallies or approximately 80 seconds of a particular subcategory of verbal behavior over three observations. Thus, a few minutes of a specific behavior can change the outcome by several percentage points. Even in the case of a broad category such as indirect behavior, the score for which is based on the combined scores for five subcategories, about 135 tallies and less than seven minutes of verbal behavior spread over five subcategories,

translate into one percentage point of indirect behavior. Obviously, greater quantities of data on each subject over longer periods of time would be a requirement for useful trend analysis. The resultant possibilities are particularly fascinating for such a category as confusion and irrelevant behavior, where there were substantial declines under the no observer (8.2%, 4.9% and 3.9%) and university supervisor (8.1%, 6.3% and 1.3%) conditions, but a weakly increasing pattern (2.1%, 2.9% and 3.4%) when the cooperating teacher was present.

Insert Table 2

RESEARCH IMPLICATIONS

Given nonsignificant findings, no recommendations for educational practice, other than the utilization of teacher centers to reduce the "threat" of the university supervisor, can be made. However, the researchers can make several important recommendations for further study.

First, this study should be replicated with a larger sample and a longer duration. Also, the study should be conducted in a variety of student teaching settings in order to evaluate the relative influence of the setting and the professionals involved.

Second, other variables such as the observer's nonverbal behavior and the subject matter being taught should be examined to evaluate their effect on the behavior of teachers, student teachers, and pupils. Furthermore, trait-treatment-interaction

studies should be conducted to examine the possibility that an observer's personal and professional characteristics and behaviors have different effects on each student teacher. If this be true, the results may suggest a matching models approach to student teaching placement.

Third, such research should examine the role of the pupil in the classroom. For example, the apparent but nonsignificant trend of the cooperating teacher exerting the more influence upon the student teacher in criticism and rejection, and confusion and irrelevant behavior (Table 2) may actually be the result of the cooperating teachers' affect on the pupils. It may be that the presence of the pupils' "real" teacher discourages any misbehavior. Likewise, there is an increase in the amount of criticism and rejection, and confusion and irrelevant behavior in the absence of the cooperating teacher. Surely neither the student teacher nor the university supervisor encourages misbehavior in the pupils. Yet more student teacher verbal behavior of the type expected when pupils do misbehave occurs when the cooperating teacher is absent from the room. Thus, the behavior of the pupils may affect the verbal behavior of the student teacher. As a result, the influence of the pupils may be confused with that of the observers. Further study is recommended examining the influence of pupils on teacher and student teachers' behavior in the classroom and, thus, contribute to a better understanding of the dynamics of the classroom.

In summary, this research indicated that the observer effect of the cooperating teacher and university supervisor did not

influence differentially the behavior of the student teacher. Although this study seems to raise more questions than it answers, it is important because of the implications for further research in all phases of human interaction involving university supervisors and cooperating teachers in the training of student teachers.

Table 1

PROBABILITY TABLE FOR THE ACCEPTANCE OF RESEARCH HYPOTHESES[a]

Category Subcategory	Hypotheses 1, 2, 3 Probability of consistent behavior regardless of observer (CT, US, NO)[b]
Indirect Verbal Behavior	.559
Affective Clarification and Acceptance	.554
Praise and Reward	.001
Cognitive & Skill Clarification & Acceptance	.848
Teacher Questions	.336
Response to Questions	.909
Direct Verbal Behavior	.897
Initiates Information and Opinion	.524
Corrective Feedback	.728
Requests and Commands	.129
Criticism & Rejection	.035
Confusion and Irrelevant Behavior	.061

[a]NOTE: A split-plot factorial design for the analysis of variance was used to arrive at the F ratios for the performance scores for the three hypotheses.

[b]The symbols for the observers are: CT--cooperating teacher, US--university supervisor, NO--no observer present in the classroom.

Table 2

PERCENTAGES OF STUDENT TEACHER VERBAL BEHAVIOR OF OSIA CATEGORY, TIME OF OBSERVATION, AND OBSERVER CONDITION

Category / Subcategory	Time of Observation	Observer Conditions: No Observer (%)	Cooperating Teacher (%)	University Supervisor (%)	Average (%)
Indirect Verbal Behavior	2 wk.	29.2	30.3	25.2	28.2
	4 wk.	24.5	27.8	24.8	25.7
	6 wk.	23.7	27.1	29.8	26.9
	Avg.	25.8	28.4	26.6	26.9
Affective Clarification and Acceptance	2 wk.	.4	.1	.1	.2
	4 wk.	.2	1.0	.3	.5
	6 wk.	.3	.7	.2	.4
	Avg.	.3	.6	.2	.4
Praise and Reward	2 wk.	1.8	2.4	1.3	1.8
	4 wk.	1.3	1.3	1.0	1.2
	6 wk.	.7	1.1	1.3	1.3
	Avg.	1.3	1.6	1.2	1.4
Cognitive and Skill Clarification and Acceptance	2 wk.	10.5	9.0	6.7	8.7
	4 wk.	8.4	8.5	8.1	8.3
	6 wk.	7.8	7.2	9.9	8.3
	Avg.	8.9	8.2	8.2	8.4
Teacher Questions	2 wk.	16.2	17.5	14.8	16.2
	4 wk.	12.5	15.6	14.6	14.2
	6 wk.	14.7	16.3	17.2	16.1
	Avg.	14.5	16.5	15.5	15.5
Response to Questions	2 wk.	.9	1.3	2.3	1.5
	4 wk.	2.2	1.5	.8	1.5
	6 wk.	2.1	1.8	1.2	1.7
	Avg.	1.7	1.5	1.4	1.6

-- continued --

Table 2 -- continued

Category / Subcategory	Time of Observation	Observer Conditions: No Observer (%)	Cooperating Teacher (%)	University Supervisor (%)	Average (%)
Direct Verbal Behavior	2 wk.	28.5	29.5	28.5	28.8
	4 wk.	31.1	27.8	30.3	30.3
	6 wk.	31.2	30.6	25.7	29.2
	Avg.	30.3	29.3	28.2	29.2
Initiates Information or Opinion	2 wk.	13.4	13.2	14.9	13.8
	4 wk.	11.3	10.3	12.5	11.4
	6 wk.	13.3	15.4	9.1	12.6
	Avg.	12.7	13.0	12.2	12.6
Corrective Feedback	2 wk.	1.0	1.6	1.3	1.3
	4 wk.	1.2	1.1	1.5	1.3
	6 wk.	1.3	1.1	2.2	1.5
	Avg.	1.2	1.3	1.7	1.4
Requests and Commands	2 wk.	9.5	11.6	9.1	10.1
	4 wk.	15.3	14.1	13.5	14.3
	6 wk.	15.0	12.5	12.2	11.6
	Avg.	13.3	12.7	11.6	12.5
Criticism and Rejection	2 wk.	4.5	2.5	3.5	3.5
	4 wk.	3.3	2.3	2.8	2.8
	6 wk.	2.0	1.3	2.2	1.8
	Avg.	3.3	2.0	2.8	2.7
Confusion and Irrelevant Behavior	2 wk.	8.2	2.1	8.1	6.1
	4 wk.	4.9	2.9	6.3	4.7
	6 wk.	3.9	3.4	1.3	2.9
	Avg.	5.7	2.8	5.2	4.6

Footnotes

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